WELCOME

UNITED STATES ARMY

AMMUNITION PROCUREMENT AND SUPPLY AGENCY

JOLIET ARMY AMMUNITION PLANT

JOLIET, ILLINOIS

UNIROYAL

OPERATING CONTRACTOR

C O N T E N T S

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Date: August 3, 1970

FACT SHEET

Joliet Army Ammunition Plant
Joliet, Illinois
Operated by Uniroyal, Inc.
(Uniroyal Chemical)

Location: Approximately 10 miles south of Joliet on Illinois Route 53 formerly known as Route 66A.

Size: 23,091 acres - 14,385 acres east of Route 53 and 8,706 acres west of Route 53 (Approximately 36 square miles).

Physical Assets: 1,525 buildings, 250 miles of roads, 170 miles of railroad track, 190 miles of water lines, 4,500 telephones.

Organizational: The Ammunition Procurement and Supply Agency (APSA) is the "home office" of the U. S. conventional military ammunition industry. APSA buys metal parts and components from private industry. Parts are shipped to APSA loading plants. There, they are loaded with explosives from manufacturing plants such as Joliet, assembled into complete rounds, and shipped to depots or troops in the field. APSA also directs the supply of ammunition to Army troops world-wide.

Joliet Army Ammunition Plant (JAAP) is composed of a bulk high explosives manufacturing plant (Manufacturing Unit), and shell and bomb loading, assembly and packing facilities, commonly known as Munitions side.

Office of the Contracting Officers Representative (COR), locally based liaison officer between government and operating contractor.

Uniroyal, Inc. (Uniroyal Chemical) operating contractor of JAAP.

Key Officials: Brigadier General P. G. Olenchuk, Commanding General, APSA.

Lieutenant Colonel Charles F. Ball, Jr., Commanding Officer of Joliet Army Ammunition Plant.

Louis A. Doherty, Plant Manager, Uniroyal, Inc. (Uniroyal Chemical).

Personnel: Employment as of February 13, 1970 was as follows: APSA - 2,234 employees, Office of COR - 157 employees, Uniroyal - 6,561 active employees. In excess of 29,300 people have been hired since September 1965 by Uniroyal to staff the plant. The primary source of applicants has been the underemployed, the unemployed, and the disadvantaged. Many of these, after being trained by Uniroyal, have moved on to private industry. Uniroyal's peak employment was 8,107 in August 1969. The employment level is expected to drop to approximately 5,000 by

late summer 1970.

Non-white 16.5 per cent - 34 per cent males, 66 per cent females. 60 per cent of Uniroyal's employees come from Will County, 14 per cent from Kankakee, and the balance within a 50 mile radius.

Area Impact: 1969 Uniroyal wage and salary payroll - $68,146,567. 1969 purchase of supplies and equipment by Uniroyal - $50 million with 25 per cent going to small business, over $15 million was spent locally, 1969 operating cost for JAAP - totals $399,562,053.45.

Key Personnel

Lt. Col. Charles F. Ball Jr., Commanding Officer

E. H. Baumer, Industrial Relations Manager

R. E. Cunniff, Munitions Manager

G. M. Demarest, Operations Director

N. A. Desmarais, Chief Process Engineer

A. D. Devlin, Plant Auditor

L. A. Doherty, Plant Manager

E. B. Dumont, Engineering Manager

W. F. Hord, Communications Supervisor

C. R. Hoshaw, Shift Superintendent

D. G. Jamieson, Maintenance and Power Manager

J. M. Mead, Quality Control Manager

R. J. Miller, Services Director

J. T. Mullen, Finance Manager

E. S. Muller, Purchasing Manager

W. J. Mullin, Shift Superintendent

R. F. Parker, Engineering and Planning Director

H. L. Pozzi, Salary Administrator

D. A. Reid, Materials Manager

M. J. Reynolds, Explosives Manager

R. J. Spieler, Industrial Engineering Manager

J. R. Wetherholt, Safety Director

K. L. Zilske, Shift Superintendent

UNIROYAL, INC. - DIVERSITY ON A GRAND SCALE

Back when Uniroyal, Inc., went by the more familiar name of U.S. Rubber, the average person found it a little difficult to understand how, or why, the company had been selected to operate the Joliet Army Ammunition Plant.

The situation was somewhat understandable. After all, what seeming relationship is there between the manufacture of tires and the production of high explosives, artillery shells and bombs?

The answer, of course, is that there is a very definite relationship. Even if there wasn't, tire production is only a part of the overall Uniroyal operation; an operation that is now so diversified, the company was forced to change its name in February 1967, because the old one simply wasn't descriptive enough.

Tire manufacturing is basically a chemical process, and so is the production of high explosives. The explosives produced here - TNT, Tetryl, Lead Azide (not currently in production) and DNT - are little more than compounds of chemicals that, in themselves, do not possess high explosive properties. They have been produced here exclusively by Uniroyal for an intermittent period of 26 years.

Despite its relationship, experience in tire-building is not the company's chief qualification for the multi-million dollar contract to operate the Joliet Army Ammunition Plant. The fact is, Uniroyal is one of the world's largest producers of chemicals for industrial use, through its Chemical Division of which this plant is a part.

Key positions in the high explosives manufacturing portion of the plant are held, for the most part, by transfers from other Uniroyal Chemical plants. Plant Manager L.A. Doherty is one such transfer, and has 29 years of experience with the company, all of it spent in Uniroyal Chemical. The Uniroyal staff members at JAAP have over 400 years (an average of 19 years) of service with Uniroyal.

Now, about Uniroyal in general. Through its various divisions, the Company produces America's largest line of rubber and casual footwear, and a wide assortment of other rubber goods, consumer chemicals, plastics, textiles, and synthetic fibers.

In one field, Uniroyal is indisputably the world's largest....production of rubber chemicals. Virtually every rubber product manufactured anywhere - including those of rival tire companies is exposed to treatment (s) by Uniroyal chemicals.

To provide you with a general idea of the true magnitude of the Uniroyal operation, we submit these facts:

1. It is one of the 50 largest corporations in America - and one of the three largest tire manufacturers in the world - with total assets of $1,121,372,000. Uniroyal is more than a tire company, being the largest manufacturer of leisure time sports shoes marketed under the brand name of Keds, one of the top 20 chemical producers, among the top 15 textile mill producers, and a major manufacturer of plastics including Naugahyde vinyl upholstery.

2. In 1968, sales totaled $1,429,156,000 according to Uniroyal's Annual Report to its stockholders. This is a 13 per cent increase over 1967 sales and an eight per cent increase over the record 1966 sales of $1,323,809,000. Tire sales alone were over 171 million units. During January 1969, the Board of Directors voted a two for one stock split (30 to 60 million shares). Uniroyal has over 49,000 common stock holders.

3. The company employs approximately 68,000 people, and has spent $376 million in the past four years for plant modernization and expansion programs. Additional investments for these programs for the next five years call for capital expenditures in excess of $600 million.

4. It has over 50 plants in the continental United Sates, of which JAAP is the largest - and over 40 additional plants in more than 100 countries around the world. The latter account for over 33 per cent of total employment.

5. It has sales and distribution offices in more than 100 foreign countries, which account for over 25 per cent of total sales.

6. Uniroyal makes 33,000 products in 1,200 product lines, many of which are inter-related. For example, it not only produces the chemicals and textiles used in manufacturing Uniroyal tires, but grows and processes the raw rubber as well.

7. The company holds several basic patents on the use of radioactive isotopes for industrial purposes.

We could go on and on.

AN INTRODUCTION TO JAAP

JAAP - THE WHAT AND THE WHO OF IT

You probably were aware of the existence of the Joliet Army Ammunition Plant (JAAP) before your visit today, but you would be only typical if you weren't exactly certain what the plant is, what it does or who's involved in its operation.

It is, first of all, wholly owned by the U. S. Government - property, buildings, and equipment - and operated by Uniroyal, Inc., under contract let by the Department of Defense through the Ammunition Procurement and Supply Agency (APSA).

The installation serves as the "home base" of APSA, one of the military organizations that does not make its headquarters in Washington, D.C. From this centrally located point, APSA directs the operations of 25 ammunition plants throughout the country.

The basic mission of JAAP is to safely produce high explosives of the type used in conventional artillery projectiles and aerial bombs, and to load, assemble and pack (commonly known as L.A.P.) certain classes of shells, projectiles and bombs.

Plant production facilities are presently operational only in time of conflict and for such time after the cessation of hostilities as is necessary to stockpile sufficient supplies of conventional weapons to meet training needs and possible future conflicts.

It serves the needs of national defense and at the same time pumps literally millions of dollars into the economy of Northern Illinois through not only its multi-million dollar payroll but millions of dollars in local purchasing as well.

-more-

PERTINENT DATA

The Joliet Army Ammunition Plant is capable of manufacturing explosives and loading bombs, shells and supplementary items. It has facilities for the manufacture of sulphuric acid, trinitrotoluene (TNT), tetryl, lead azide, nitric acid, DNT, sellite, demolition blocks, modification of medium caliber ammunition, and the loading, assembling and packing of medium caliber ammunition and ammunition components. Based upon construction cost factors obtained from U. S. Army Corps of Engineers, the current plant replacement value is $440,103,955 of which $123,229,187 is considered capital assets. The total operating cost of JAAP during 1968, was $403,661,000. The installation currently has 1,525 buildings, totaling over five million square feet of floor space. Operating buildings are of either permanent or semi-permanent construction. The operating contractor of the Plant is Uniroyal, Incorporated.

The current JAAP Government force is 161 plus 6,751 active contractor personnel and 2,229 Government employees at APSA making a total of approximately 8,980 as compared to a force of approximately 18,500 Government and contractor employees in 1944, at the peak of production. — See fact sheet

HISTORICALLY SPEAKING

JAAP came into being - under a different name but otherwise very much the same in 1939-40-41, at the outset of World War II. Prior to that time, vast acreage now occupied by the installation was privately owned farmland.

It was then and still is divided into two production areas, one on the west side of Route 53 where high explosives are manufactured, and another on the east side of Route 53, where artillery shell and bomb loading assembly and packing facilities are located. Both units serve as storage and shipping points for their products, and have other production capabilities in addition to those stated.

The Joliet Army Ammunition Plant, Class II installation, is a consolidation and redesignation of the Kankakee Ordnance Works (KOW), producers of high explosives and chemicals, and the Elwood Ordnance Plant (EOP), ammunition loading plant.

Construction of these two units was begun in 1940, and completed during World War II. Combined, the KOW and EOP were one of the nation's largest producers of munitions during the war, KOW producing over 500,000 tons of explosives, and EOP loading over 350,000 tons of bombs, 26 million shells and 30 million supplementary items during the period of production ending in August 1945.

Originally, the contract for producing high explosives was held by DuPont, and Sanderson and Porter operated the bomb and shell loading, assembly and packing operation of the plant.

Uniroyal (then known as U. S. Rubber) entered the picture in 1943, when it was awarded the contract for the high explosives manufacturing operation. The company has continued to conduct that operation for an intermittent period of 26 years.

It wasn't until July 1965, that Uniroyal contracted to handle the shell and bomb loading, assembly and packing operation as well. Immediately after the end of World War II, Department of the Army military and civilian personnel had taken over that element of the plant, operating it until 1965.

THE VASTNESS OF IT ALL

The plant covers an immense area of over 23,000 acres, or approximately 36 square miles. That's slightly larger than Miami, Florida, and 21 square miles larger than Joliet. At one time, in World War II, the plant covered over 32,000 acres, but has been reduced in size while maintaining full production capability and satisfying all safety requirements.

The L. A. P. Unit is by far the more sizeable of the production areas, encompassing 14,385 acres. The Manufacturing Unit rests on 8,706 acres.

At first glance, it might appear that a great deal of the acreage is unneeded and unused. In reality, each and every acre is not only necessary but put to good use.

The very nature of the end products of the manufacturing processes makes it mandatory that the processes themselves and the area in which they take place be widely separated. Every precaution is taken to avoid accidents, but should an accident happen, damage, both to employees and property, is held to a bare minimum by the widely spread nature of production facilities.

It is also necessary to maintain a wide "buffer zone" between production and storage areas and the boundaries of the installation.

Suitable property not in use for production purposes and not located in potential danger zones is leased to farmers for the planting of non-price-supported crops or pasturing of animals. A full-time land manager is employed by Uniroyal to handle leasing of farmland, rotation of crops and grazing land. The leases return more than $200,000 per year to the government.

Combined, the L.A.P. and Manufacturing Units have 170 miles of railroad track, 250 miles of roadway and 1,525 buildings. Waterlines which serve the two units cover 190 miles. It is not at all uncommon for a supervisor to drive 40 to 50 miles in the course of a day's work without leaving the plant.

Uniroyal, Inc. presently employs approximately 8,000 active persons at the Joliet Ammunition Plant and this total will meet current production demands. In addition, there are 930 employees on leave of absence. There is a normal fluctuation as employees terminate and new hires are required for replacement. Therefore, Uniroyal must continue an aggressive recruitment program at the installation.

THE MANUFACTURING UNIT - ITS PRODUCTS, FEATURES

The high explosives produced on the Manufacturing side of the plant are TNT (tri-nitro-toluene), the main charge used in most conventional artillery projectiles and bombs; Tetryl, a booster charge used to detonate TNT; Lead Azide (not currently being produced), a highly sensitive explosive compound used prin-

cipally in the fuze which detonates the booster charge and DNT, an ingredient for a propellant manufacture.

Sulfuric and nitric acids, employed in the manufacturing of explosives, are also produced at the Manufacturing Unit west of Rte. 53.

There are 12 TNT and 12 Tetryl production lines located on the installation. Utilization of these lines is dependent on the Army's product demand. Presently, all 12 TNT and six Tetryl production lines are in operation. Also two DNT lines are in operation. In October 1968, a new TNT production record was set.

On the Manufacturing side are also located the main administrative offices of APSA, COR, and Uniroyal, a small fully staffed hospital, the installation motor pool, a fire station with the latest in fire fighting equipment for all types of fires, a rather remarkable $8 million "Red Water" Processing Plant, a shop with a capability of repairing practically anything, heat and electrical power plants and a great number of magazines for high explosives storage, to mention only a few of the features.

THE L.A.P. UNIT - SHELLS AND BOMBS FOR OUR BOYS

The various "groups" of the L.A.P. Unit are capable of turning out artillery shells and projectiles of a wide variety of calibers, as well as air munition, land mines, demolition charges and fuzes.

Groups 1 and 3 are producing 105-millimeter artillery shells, the former at currently planned capacity. On Aug. 20, 1968, Group 1 produced its 10 millionth round of 105's. Group 2 is the local manufacturing point for eight-inch projectiles, used by both Army and Navy gunners. Group 3A produces cluster bombs for the Air Force and Navy. A small supplementary charge is also manufactured, along with the 105-millimeter shells, in Group 3.

In the spring of 1969, Groups 4 and 7 were reactivated for production of a 40 MM grenade shell. They can be fired from a special grenade launcher or from

a special attachment which fits on the end of the M-16 rifle. The M-79 launcher (known as the beautiful seventy-niner by infantrymen), which fires the 40 MM shells, enables the infantrymen to have in one weapon, the mincemeat firepower of the M-16 and the knockout punch of a short-range mortar - more and faster lead than any other foot soldier in history.

The reactivation of Groups 4 and 7 required an additional 400 employees.

Whereas the explosive production is accomplished mainly by men, the gals, with their superior manual dexterity, have been found better suited to the L.A.P. job.

WE'RE PRACTICALLY SELF-SUSTAINING

The plant in its entirety is virtually self-sustaining. It can generate its own steam power - and could supply enough additional from emergency generators to serve the City of Joliet - has its own sizeable combined police and fire departments which are equipped with all the latest equipment, waste disposal facilities, cafeterias, maintenance equipment for everything including roads, a laundry, two fully staffed hospitals (one on each side), housing for military personnel, taxi and bus service, railroad equipment, trucks and cars and even some recreational facilities.

The Power Division figures show that an average of 57 million gallons of water per day are used from the Kankakee and Des Plaines Rivers. In addition, 6.5 million gallons (six million from Mfg. and 500,000 from LAP) of water are pumped from wells. JAAP filters an average of one million gallons of drinking water daily also.

Although JAAP buys its electricity from Commonwealth Edison (the monthly bill is approximately $113,000) there are standby generators which could supply JAAP with electricity in time of emergency. The Mfg. and LAP sides together generate 11.3 million lbs. of steam daily. In addition, the Mfg. side burns an

average of 950,000 lbs. (475 tons) of coal daily. Besides this, approximately 800,000 gals. of sewage are treated each day at JAAP.

JAAP does have to depend upon the "outside world" for food, clothing, certain types of equipment and raw materials. Purchasing of these items funnel large sums of money into the area economy.

YOUR SAFETY AND OURS - A PRIME CONCERN

It's doubtful whether it is possible to overemphasize safety at a plant such as this, but if it is possible, JAAP pleads guilty.

Safety is our first concern even over production, and every conceivable precaution is taken.

Each production building is assigned a "man-limit", and under no circumstances will more than the specified number of people be allowed in the building at one time. If, for example, you have permission to enter, but the building is already filled to its specified capacity, someone must leave before you can enter.

Smoking is forbidden in all production and testing areas, and even the carrying of matches or lighters is taboo.

Plant guards are authorized to search employees in the production area at any time - even the plant manager is subject to search - and to be found with matches or a lighter is grounds for penalty up to and including dismissal.

The latest in protective and safety clothing is issued to employees, including helmets, safety glasses and shoes with soles that "ground" static electricity. Personnel working in the production of sulfuric and nitric acids, wear clothing made of a synthetic fiber called "Dynel" which resists acid.

Special high-velocity showers are provided throughout the production area for use in the event that an employee comes in contact with acid. Further,

employees who work in the actual manufacturing areas are required to shower each day after work, using an indicator soap which will reveal the presence of contamination on the body.

Vehicles driven in production areas are equipped with special devices to prevent the exhaust system from emitting sparks. These and countless other precautionary measures and production techniques have enabled JAAP to write a job safety story that is one of the most enviable in American industry.

Uniroyal, Inc. has compiled an enviable safety record during its operation at Joliet Army Ammunition Plant. A new all-time safety record of 7,002,836 manhours worked without a lost-time accident was set in May 1968. The company's safety record at JAAP compares favorably with other industrial complexes despite the nature of the product produced at the installation.

Community concern has sometimes been voiced because of the policy of transporting TNT by conventional means, i.e., trucks and railroad cars.

In reality, a truckload of TNT is no more dangerous than a truckload of gasoline, and less dangerous than some of the other fuels transported by truck.

TNT is a very stable explosive and under the conditions in which shipped, will burn rather than explode.

OPERATIONAL CONTRACT - A TAXPAYERS' JOY

Uniroyal contracted for the operation of JAAP on a "cost plus fixed fee" basis, which isn't quite what it sounds like.

The government pays the actual cost of operating the plant plus a set fee for services rendered. The latter amounts to what would be called profit in other areas of the Uniroyal operation.

The company cannot, however, merely turn in a bill for costs and expect payment. There are very definite cost guidelines, established by the government,

which Uniroyal must stay within and be subjected to audit for.

Thus, it is hardly an operation characterized by extravagance. Quite the contrary, every known economy measure is taken, and new ones are sought constantly in an effort to keep the expense to a bare minimum.

Employees are strongly encouraged to submit ideas for cutting cost, and have done an admirable job. During 1968, almost 4,500 suggestions were submitted. Of these, 439 received cash awards totaling nearly $10,000. They saved an estimated $84,000.

At no time is quality or safety sacrificed, however.

Many of the wastes from the production of high explosives are reclaimed and used over again, so that there is relatively little real waste material.

In this connection our Property Disposal Section, with a total personnel of only seven, realizes over $650,000 in donations of salvage to tax supported institutions, recovery of precious metals and sales of scrap during a typical year.

THE WATER'S RED THEN PURE

The disposal of liquid wastes from the refining process of TNT was once a grave problem, but no more, thanks to an $8 million structure called the "Red Water" Processing Plant.

The "plant within a plant" was completed by the U. S. Army Corps of Engineers in the summer of 1966, and turned over to Uniroyal for operation. It performs the task of removing harmful substances from the water which carries waste materials away from the production lines.

The Red Water plant derives its name from the fact that the waste bearing water it processes is a brownish red in color before it undergoes the pruifying and disposal treatment.

The operation of this plant produces a by-product which to date has been quite difficult to dispose of, but we hope soon to develop a market which will

off-set some of the expense of the plant.

FINALLY, OUR IMPACT ON THE AREA

The operation of JAAP, through undesirable from the standpoint that it occurs only in time of conflict, provides the economy of the immediate area with a real shot in the arm.

But before we detail our contributions, permit us to correct one slight misunderstanding.

We do not "raid" other area industries in our constant search for help. Our recruitment effort is confined to advertising, college campus interviews and the Illinois State Employment Service which helps not only with local hiring but outside hiring as well by contacting employment agencies in other states.

We're rather proud of one new recruiting device, a mobile unit that is pulled from community to community by truck. It consists of nothing more than a house trailer, on which are painted descriptive, attention getting signs. It has proven an invaluable recruiting aid in communities where the plant is not well known.

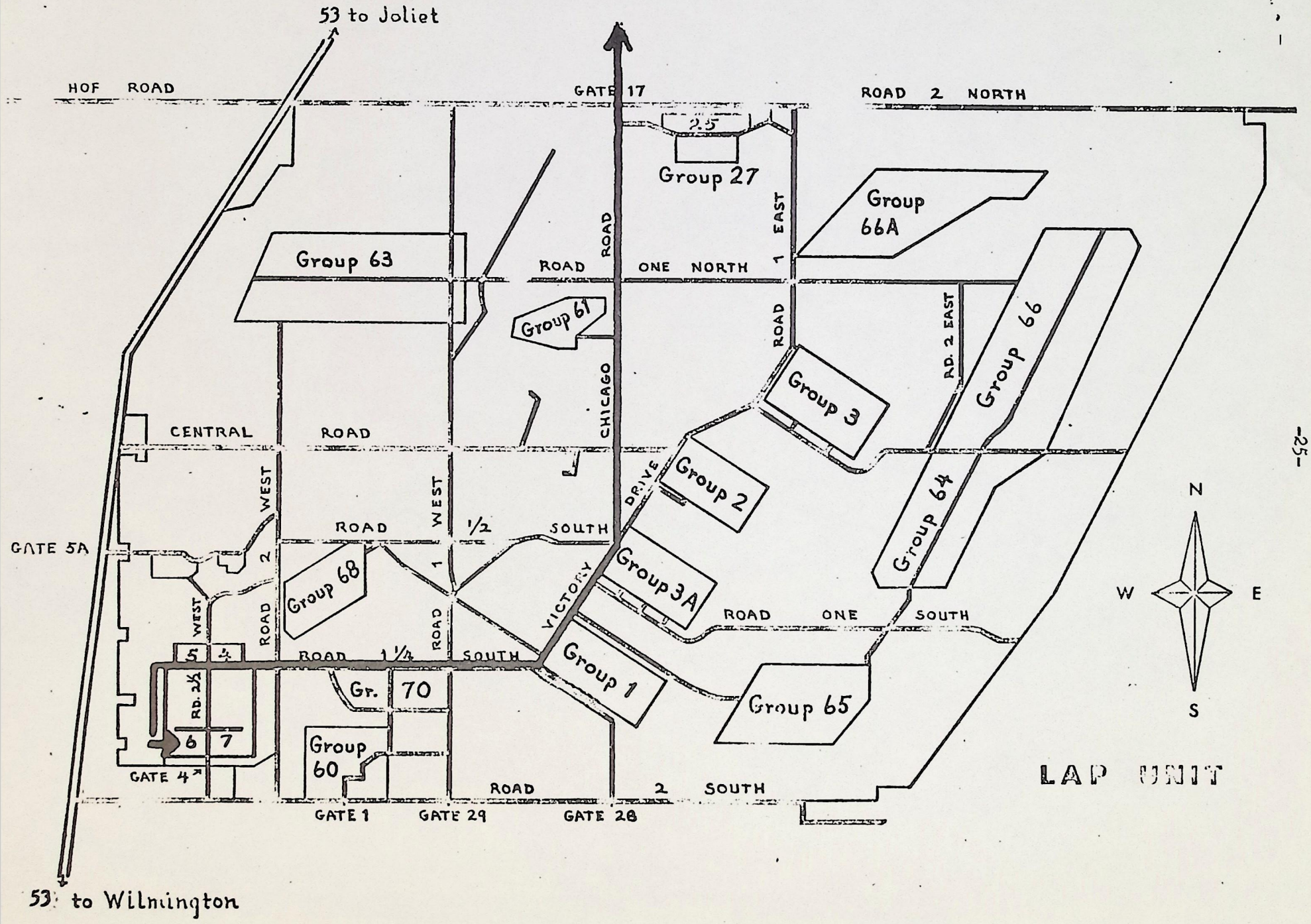
The 1968 wage and salary payroll for Uniroyal employees at the Joliet Army Ammunition Plant was $63,236,479.

During 1968, purchasing of supplies and equipment by Uniroyal totaled over $88 million with 58 per cent going to small business, $7.8 million (650,000 per month) of that being spent locally to communities within a radius of 50 miles of the installation.

The purchasing figure will remain fairly constant even in the light of future production expansion, since it reflects not only raw materials, equipment, etc., but many local sub-contracts let by Uniroyal for the accomplishment of certain

phases of the pre-production work.

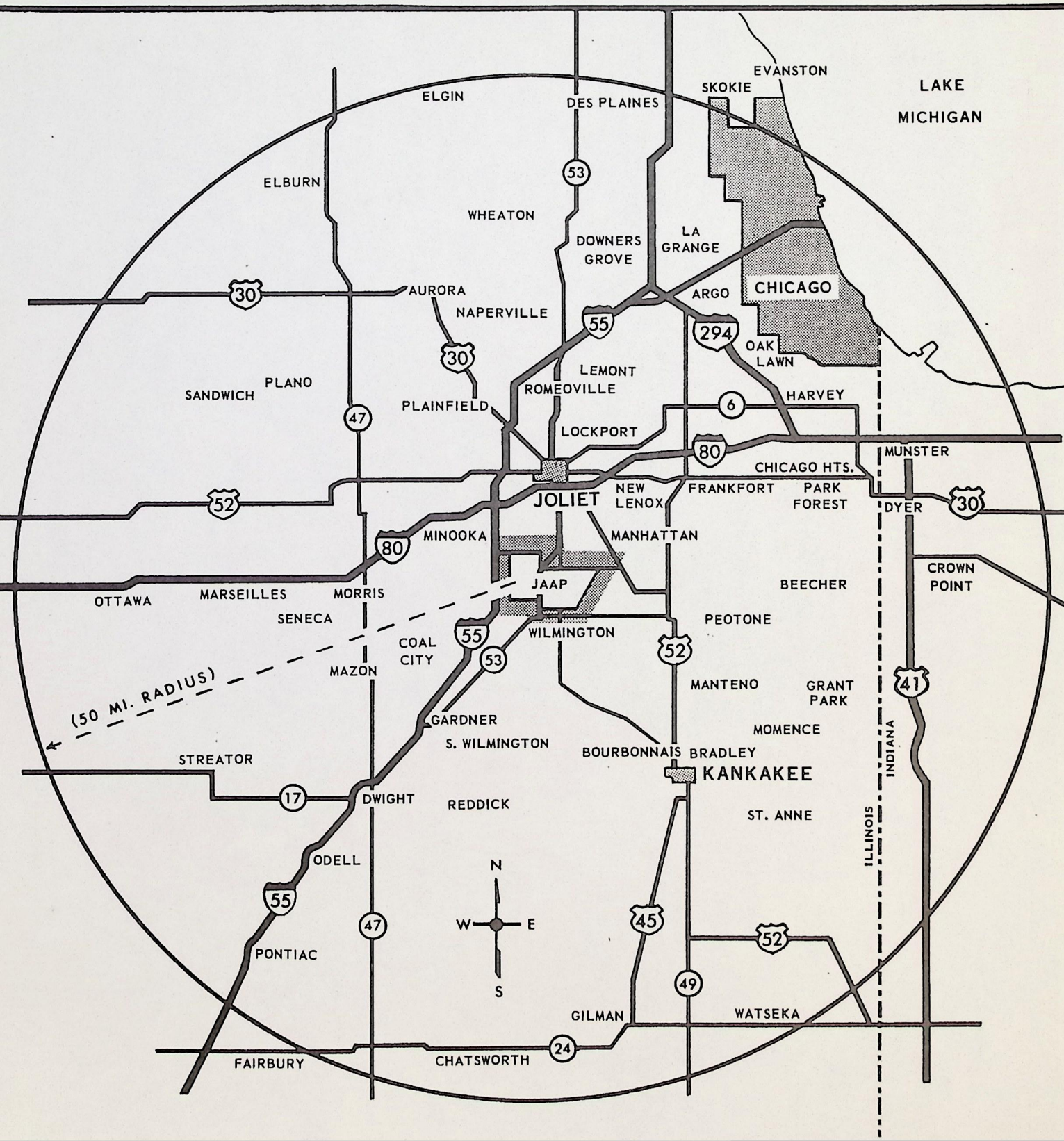
When one considers that Uniroyal, Inc. contributed more than $71 million to the local economy in 1968 (through both its payroll and local purchases) it is quite apparent that the installation is a boon to the area.


53 to Joliet
HOF ROAD
GATE 17
ROAD 2 NORTH
2.5
Group 27
Group 66A
Group 63
ROAD ONE NORTH
ROAD 1 EAST
ROAD CHICAGO
Group 61
ROAD 2 EAST
Group 66
Group 3
CENTRAL ROAD
DRIVE
Group 2
Group 64
WEST ROAD 2
WEST ROAD 1
1/2 SOUTH
GATE 5A
Group 68
Group 3A
VICTORY
ROAD ONE SOUTH
WEST ROAD
ROAD 1 1/4 SOUTH
5
4
Gr. 70
Group 1
Group 65
Rd. 2½
6
7
Group 60
GATE 4
ROAD 2 SOUTH
GATE 1
GATE 29
GATE 28
N
W
E
S
LAP UNIT
53 to Wilmington

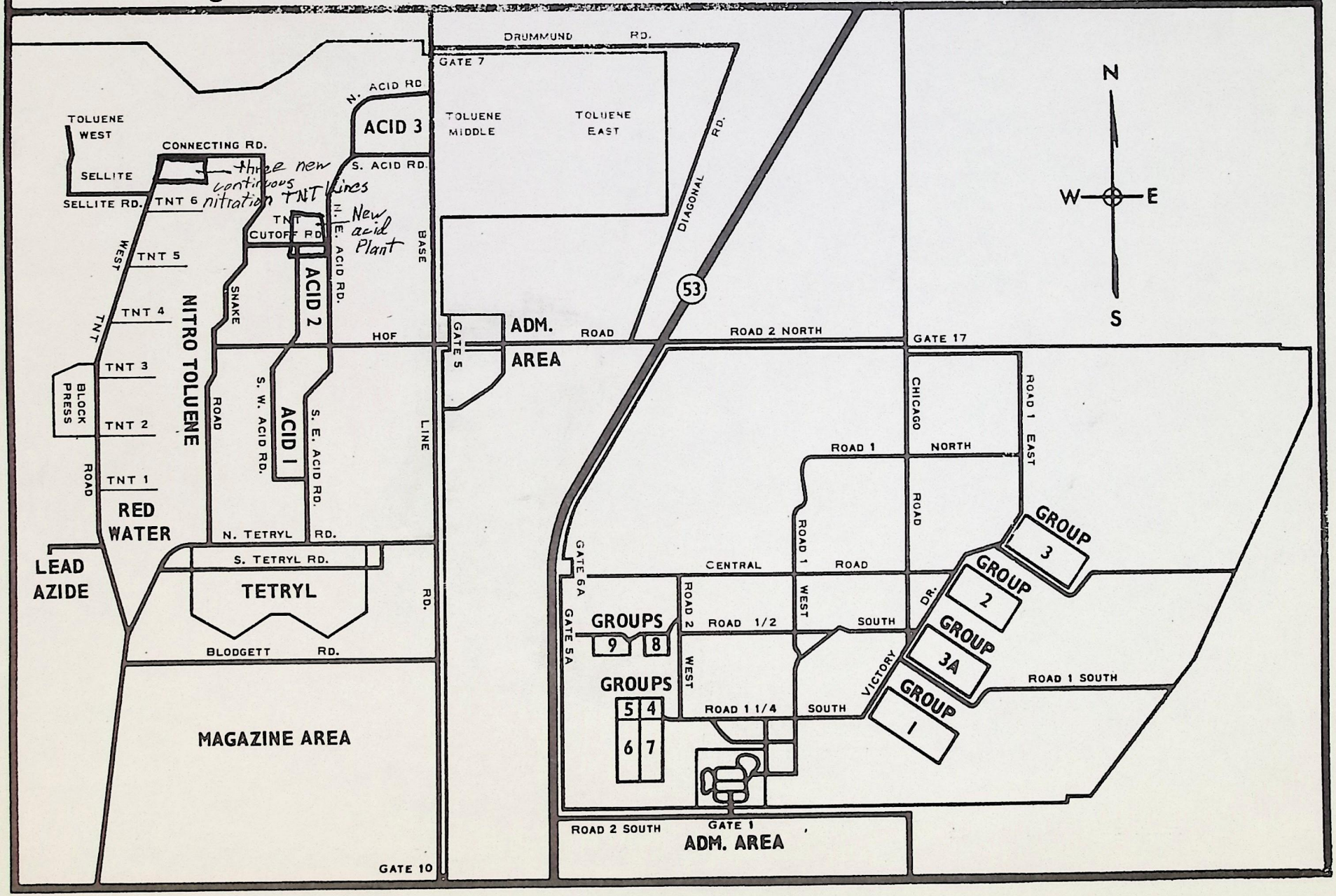
UNIROYAL, Inc.

operating contractor for the

JOLIET ARMY AMMUNITION PLANT



JOLIET ARMY AMMUNITION PLANT

operating contractor

Mfg. Unit — **UNIROYAL, Inc.** — **LAP Unit**